

The following reflects the best available science regarding the population trend of the GYE grizzly bear population:

Grizzly bear population estimates in the Greater Yellowstone Ecosystem have been relatively constant since the early 2000s. This interpretation is based several lines of evidence, including Chao2 estimates of females with cubs-of-the-year within the Demographic Monitoring Area, for which there is no statistical evidence of a linear or quadratic trend for the time period 2002-2014 ($F = 1.01$, 1 df, $P = 0.337$ and $F = 1.71$, 2 df, $P = 0.230$, respectively; IGBST, unpublished data). Population projections based on known-fate data (a data set independent of the Chao2 estimates) for the period 2002-2011 also support this interpretation: annual population growth under two alternative survival schedules of survival of independent-aged bears (i.e., one based on the assumption that every bear with an unknown fate had died [i.e., a conservative estimate]; and the other simply removing bears with an unknown fate from the sample) range from 0.3 to 2.2 percent (IGBST 2012, p. 34), with 95% confidence intervals for both estimates bounding a lambda value of 1.0 (i.e., zero percent growth). Two additional monitoring techniques used by IGBST, the mark-resight estimation for females with cubs-of-the-year (Higgs et al. 2013) and population reconstruction (IGBST, unpublished data), support the notion that the population trajectory is relative flat. Continued range expansion is not inconsistent with this observation, particularly given that bear densities are high in some portions of the ecosystem.

Comment [FTvM1]: We tried to avoid any terminology related to "stable" or "stability" as that seems to be a cause of some confusion.

Comment [FTvM2]: Key point

Comment [FTvM3]: Jennifer, for the time period 2002-2015, the case for stability strengthens with even less evidence of a statistical trend. We stuck with 2002-2014 because that was the period on which 674 population objective was based.

Comment [FTvM4]: Jennifer, this could be excluded as it is mentioned elsewhere in the PR.